WHAT IS CLAIMED IS:

1. A compressor assembly comprising:

a compressor mechanism having a block, a compression chamber and a discharge chamber, said block at least partially defining said compression chamber;

a discharge port disposed in said block and providing fluid communication between said compression chamber and said discharge chamber;

a valve seat surface formed on said block and circumscribing said discharge port;

a discharge valve member having a valve head, a biasing section and a valve support wherein each of said valve head, said biasing section and said valve support are portions of a single integrally formed part, said valve head being sealingly engageable with said valve seat surface, said biasing section biasing said valve head toward said valve seat surface and said valve support having a valve support opening extending therein; and

an elongate non-threaded coupling member having a first end and an opposite second end, said first end being mounted in said block and said elongate coupling member extending through said valve support opening thereby securing said discharge valve member to said block.

2. The compressor assembly of claim 1 wherein said coupling member extends through said valve support and said second end is mounted in said block.

3. The compressor assembly of claim 1 wherein said biasing section biases said valve head in a longitudinal direction and said valve support opening extends in a lateral direction oriented substantially perpendicular to said longitudinal direction.

4. The compressor assembly of claim 3 wherein said valve head has a first surface sealingly engageable with said valve seat surface, said first surface having a substantially convex shape and said valve seat surface having a substantially concave shape.

5. The compressor assembly of claim 4 further comprising a guide member engageable with said biasing section and positioned to limit movement of said discharge valve member relative to said valve seat surface.

6. The compressor assembly of claim 4 wherein said first surface and said valve seat surface are each substantially shaped to define a portion of a sphere.

7. The compressor assembly of claim 6 wherein said first surface and said valve seat surface have a substantially equivalent radius.

8. The compressor assembly of claim 1 wherein operation of said compressor mechanism creates a maximum pressure differential between said compression chamber and said discharge chamber of at least about 500 psi.

9. The compressor assembly of claim 1 wherein said compression chamber is a cylindrical chamber defined within said block, said compressor mechanism is a rotary compressor mechanism and wherein said block defines a discharge passage in fluid communication with said discharge port and forming a portion of said discharge chamber, said valve discharge member being mounted within said discharge passage, said valve support having an outer surface, a portion of said outer surface engaging said discharge passage and a portion of said outer surface being spaced from said discharge passage to define a fluid passage therebetween.

10. A compressor assembly comprising:

a compressor mechanism having a compression chamber and a discharge chamber;

a discharge port providing fluid communication between said compression chamber and said discharge chamber;

a valve seat surface circumscribing said discharge port;

a discharge valve member having a valve head, a biasing section and a valve support, said valve support being mounted to said compressor mechanism; said biasing section biasing said valve head in a longitudinal direction toward said valve seat surface and said valve head having a first surface, said first surface having a substantially convex shape and being sealingly engageable with said valve seat surface; and

a guide member extending in said longitudinal direction, said guide member engageable with said biasing section wherein engagement of said guide member and biasing section limits lateral movement of said valve head to lateral positions wherein said valve head is sealingly engageable with said valve seat surface, said guide member being spaced from said valve head when said valve head is sealingly engaged with said valve seat surface.

11. The compressor assembly of claim 10 wherein each of said valve head, said biasing section and said valve support are portions of a single integrally formed part.

12. The compressor assembly of claim 10 wherein said valve seat surface has a substantially concave shape.

13. The compressor assembly of claim 12 wherein said first surface and said valve seat surface are each substantially shaped to define a portion of a sphere.

14. The compressor assembly of claim 13 wherein said first surface and said valve seat surface have a substantially equivalent radius.

15. The compressor assembly of claim 10 wherein said discharge valve member is mounted to said compressor mechanism by a non-threaded elongate coupling member extending through a laterally extending opening in said valve support, pivotal movement of said biasing section relative to said coupling member being limited by said guide member.

16. The compressor assembly of claim 15 wherein said biasing section circumscribes said guide member and said guide member is engageable with a radially inner surface of said biasing section, said guide member further including a second laterally extending opening, said coupling member wherein said coupling member extends through said second laterally extending opening to thereby secure said guide member to said compressor mechanism.

17. The compressor assembly of claim 10 wherein said biasing section circumscribes said guide member and said guide member is engageable with a radially inner surface of said biasing section.

18. The compressor assembly of claim 17 wherein said guide member has a plurality of longitudinally extending recesses extending to a distal end of said guide member proximate said valve head, said valve head having a second surface disposed opposite said first surface and facing said guide member, said second surface having a substantially concave shape.

19. The compressor assembly of claim 17 wherein said valve head has a second surface disposed opposite said first surface and facing said guide member, said guide member including at least one longitudinally extending passageway in fluid communication with said discharge chamber and extending to a distal end of said guide member proximate said valve head.

20. The compressor assembly of claim 19 wherein said at least one longitudinally extending passageway comprises a plurality of longitudinally extending recesses extending along an outer surface of said guide member.

21. The compressor assembly of claim 10 wherein operation of said compressor mechanism creates a maximum pressure differential between said compression chamber and said discharge chamber of at least about 500 psi.

22. A compressor assembly comprising:

a compressor mechanism having a compression chamber and a discharge chamber;

a discharge port providing fluid communication between said compression chamber and said discharge chamber;

a valve seat surface circumscribing said discharge port wherein said valve seat surface includes an inner radial perimeter defining a discharge port area; and

a discharge valve member having a valve head, a biasing section and a valve support, wherein said valve head, said biasing section and said valve support are portions of a single integrally formed part, said valve support being mounted to said compressor mechanism; said biasing section biasing said valve head in a longitudinal direction toward said valve seat surface, said longitudinal direction being perpendicular to a plane containing said discharge port area, and said valve head having a first surface sealingly engageable with said valve seat surface and a second surface disposed opposite said first surface wherein said first surface defines a substantially convex surface and said second surface defines a substantially concave surface, said second surface exposed to fluid within said discharge chamber and extending radially outwardly of said discharge port whereby, in a plane oriented perpendicular to said longitudinal direction, said second surface defines an effective area greater than said discharge port area.

23. The compressor assembly of claim 22 wherein said valve seat surface has a substantially concave shape.

24. The compressor assembly of claim 23 wherein said first surface and valve seat surface are each substantially shaped to define a portion of a sphere.

25. The compressor assembly of claim 24 wherein said first surface and said valve seat surface have a substantially equivalent radius.

26. The compressor assembly of claim 22 wherein operation of said compressor mechanism creates a maximum pressure differential between said compression chamber and said discharge chamber of at least about 500 psi.